

florum, *H. tenuifolium*, *Parthenium Hysterophorus*, *Solanum rostratum*, *Monarda citriodora*, and *Croton capitatum*. The plants were first noticed by W. J. Greene of the Ohio Experiment Station, and appeared to be growing well and spreading. The seed was evidently scattered from cars or wagons upon the return of the show at the close of the season.—AUG. D. SELBY, *Columbus, Ohio*.

Continuity of the protoplasm in the *Chantransia* form of *Batrachospermum*.—Strasburger (*Botanisches Practicum*, p. 403, 2nd German edition), mentions the fact of the continuity of the protoplasm between the cells of filaments of *Batrachospermum*. The writer's attention was attracted to this phenomenon while studying the *Chantransia* form of one of the species of *Batrachospermum*, probably *Chantransia (Batrachospermum) macrospora*, from Florida; and the protoplasmic connection was so evident that he thought the readers of the *BOTANICAL GAZETTE* might be interested in his observations.

The phenomenon was first noticed in a slide of the alga which had been mounted in glycerine jelly. In preparing the specimen for the jelly the glycerine had caused a slight shrinkage of the cell-contents, drawing it away from the cell-walls in all parts of the cells except at the ends, where fine threads of protoplasm which pierced the end walls were plainly seen to connect the shrunken masses of protoplasm in the different cells. The figure, showing this condition, was drawn from a filament on this slide with a Abbé camera, power 600 diameters, (reduced one-half).



A very satisfactory way of demonstrating the presence of the connecting fibril is to stain the alga filaments with an alcoholic solution of eosin, wash in water, and then carefully shrink the contents of the cells with dilute glycerine. The water washes the eosin out of the cell-walls leaving the granular matter of the cells deeply stained and the connecting protoplasmic threads slightly colored. Borax carmine also gave satisfactory results. Iodine and methyl violet did not differentiate clearly enough, the cell-walls being so deeply stained as to obscure the protoplasmic connections. However, the green filaments, with the contents shrunken a little,

exhibit the connecting fibril in an unmistakable way. The *Chantransia* form is better to demonstrate the continuity of the protoplasm than the sexual form, because the cells are as a whole much larger.—BRADLEY M. DAVIS, *Indiana University, Bloomington*.

A method of studying the growth of tubers.—After a careful examination of all the literature on tubers and tubercles at hand it appears